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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/982,794	10/22/2001	Shih-Hsiung Ni	108339-00080	8401

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EXAMINER

DIVECHA, KAMAL B

ART UNIT PAPER NUMBER

2151

DATE MAILED: 09/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/982,794

Applicant(s)

NI, SHIH-HSIUNG

Examiner

KAMAL B. DIVECHA

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) ~~OR THIRTY (30) DAYS~~, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

PD

Response to Arguments

Claims 1-13 are pending in this application.

The applicant in the response filed on 09/09/2005 has amended claims 1, 6 and 10.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found **either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).** In this case, the suggestion or motivation to combine the secondary references are and can be found in the Final action pages 3-7. Every combination has some suggestion and/or motivation to combine the references.

Further, Applicant's arguments with respect to claims 1-13 have been considered but are moot in view of the new ground(s) of rejection.

DETAILED ACTION

Claims 1-13 are presented for examination.

Claim Rejections - 35 USC § 112

The following is a quotation of the **first paragraph of 35 U.S.C. 112**:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

1. Claims 1-13 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not

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described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims 1, 6 and 10 recite the limitation of “an insertion module configured to **insert null bytes into the header of the cell** of the data packet to form a **modified header cell** of the data packet if the counter determines that the cell of the data packet does not satisfy the multiple of the predetermined number of bytes”. However, the specification merely describes a network device configured to prevent data misalignment of a data packet containing extra header bytes. The network device includes an ingress module having an input interface to receive data. A header detector configured to detect the header bytes of the cell and remove the header from the cell of the data packet is also provided on the network device. A counter determines whether the cell of the data packet contains a multiple of predetermined bytes. If the counter determines that the cell of the data packet does not satisfy the multiple of predetermined bytes, **an insertion module inserts null bytes into the cell of the data packet to form a modified cell of the data packet**. Then an extraction module removes the null bytes from the modified cell of the data packet when the modified cell exists the network device (see abstract, summary of the invention), hence, the above claimed limitation presents new matter situations and was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor (s), at the time the application was filed, had possession of the claimed invention.

The following is a quotation of the **second paragraph of 35 U.S.C. 112**:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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2. Claims 1, 6 and 10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1, 6 and 10 recites the limitations “header of the cell”, “header cell”, “modified header cell” and “modified cell” in the claims are unclear, and hence renders the claims indefinite.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1, 6 and 10 are rejected under 35 U.S.C. 103(a) as being obvious over Thompson, Michael I. (herein known as Thompson, EP 0 572 145 A2) in view of Scott (U. S. Patent No. 6,512,773 B1).

Thompson discloses a network device configured to prevent data misalignment of a data packet containing extra header bytes (col. 1 L25-38), the network device comprising: an ingress module having an input interface to receive a cell of the data packet (col. 1 L25-30, col. 11 L26-32); a header detector configured to detect a header of a cell of the data packet and remove the header from the cell of the data packet (col. 11 L51 to col. 12 L10); an insertion module configured to insert null bytes into the cell of the data packet to form a modified cell of the data packet if the CPU determines that the header/data split is not on an even byte boundary (i.e. the

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number of bytes contained in data portion is even, multiple of predetermined bytes is an even number or odd), and the alignment must be corrected by processor 15 by inserting null bytes into the header of the cell (col. 12 L28-36, col. 1 L25-34; col. 5 L10-15, L29-37; fig 9; col. 4 L34-37: i.e. if the header/data split is not even, pad bytes or null bytes are inserted to correct the alignment); and an extraction module configured to remove the null bytes from the modified header cell of the data packet as a modified cell of the data packet exits the network device (col. 6 L35-46), however Thompson does not disclose a counter to determine whether the cell of the data packet contains a multiple of a predetermined number of bytes after the header has been removed.

Scott, from the same field of endeavor discloses a network device comprising: an ingress module having an input interface to receive a cell of the data packet (col. 10 L15-21); an egress module having output interface to output the cells (col. 10 L27-30); a header detector configured to detect a header of the cell of the data packet and remove the header from the cell of the data packet (col. 10 L22-23, L54-55); a counter to determine and/or count the number of octets of the user data PDU of the payload; and an insertion module that adds pad characters to make the frame or cell equal an integer number of 48 octet cells (i.e. inserting null bytes if the frame or cell does not satisfy an integer number of 48 octet i.e. if it does not satisfy the multiple number of the predetermined number of bytes, an even number, col. 10 L40-50, fig. 5C item #236). Therefore it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to modify Thompson in view of Scott, in order to include a counter that determines whether the cell of the data packet contains a multiple of a predetermined number of bytes after the header has been removed (i.e. a counter that counts number of bytes in the cell of

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the data packet), since Scott teaches and discloses a counter that counts data octets of the user data PDU of the payload and adding pad characters to make the frame equal an integer number of an even number of 48 octet cells.

One of ordinary skilled in the art would have been motivated because it would have determined and/or counted the number of bytes in a cell (Scott, col. 10 L40-50) and based on the determination it would have inserted the pad byte into the cell in order to align the headers and the cell (Thompson, col. 1 L25-38).

As per claim 6, Thompson further discloses forwarding the modified cell of the data packet to an output port (col. 6 L30-46) and therefore, claim 6 is rejected for the same reasons as set forth in claim 1 above.

As per claim 10, it does not teach or further define over the limitations in claims 1 and 6. Therefore, claim 10 is rejected for the same reasons as set forth in claim 1 and 6 above.

2. Claims 2-3, 7-8 and 11-12 are rejected under 35 U.S.C. 103(a) as being obvious over Thompson, Michael I. (herein known as Thompson, EP 0 572 145 A2), in view of Scott (U. S. Patent No. 6,512,773 B1), and further in view of Denton et al. (U. S. Patent No. 6,567,413 B1).

As per claim 2, Thompson in view of Scott does not explicitly disclose wherein network device comprises an aggregator (read as data transferring device) that interfaces with an Ethernet and a SPI-4 communication system.

Denton explicitly discloses a multi-protocol processor comprising data transmitting processors interfacing with an Ethernet and a SPI-4 communication interfaces (fig. 2). Therefore, it would have been obvious to a person of ordinary skilled in the art at the time the invention was

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made to incorporate the teaching of Denton as stated above with Thompson in view of Scott for the purpose of interfacing an aggregator with an Ethernet and SPI-4 communication interfaces.

One of ordinary skilled in the art would have been motivated because it would performed data link and physical sub-layer processing on the egress and ingress data in accordance with a selected one of plurality of supported protocols, enabling communication of packetized data between different types of communication networks (Denton, col. 4 L5-8).

As per claim 3, Thompson in view of Scott does not disclose the system wherein the aggregator (read as data transferring device) is configured to interface between a twelve 1-Gigabit ports (read as gigabit module having 12 ports) and one 12 Gigabit/s SPI-4 uplink. Denton discloses a multi-protocol processor comprising data transmitting processors configured to interface between Gigabit Ethernet module and SPI-4 uplink module (fig. 2 item #204-#222). Therefore, it would have been obvious to a person of ordinary skilled in the art to modify Denton to configure data transferring device (path processor) to interface between 12-port GBIC module and one SPI-4 uplink. One of ordinary skilled in the art would have been motivated because it would have enabled communication of packetized data between egress and ingress modules or communications between the Ethernet module and the uplink.

As per claim 7-8 and 11-12, they do not teach or further define over the limitations in claim 2-3. Therefore, claims 7-8 and 11-12 are rejected for the same reasons as set forth in claim 2-3.

3. Claims 4-5, 9 and 13 are rejected under 35 U.S.C. 103(a) as being obvious over Thompson, Michael I. (herein known as Thompson, EP 0 572 145 A2), in view of Scott (U. S.

Patent No. 6,512,773 B1), and further in view of Milway et al. (hereinafter Milway, U. S. Patent No. 6,122,279), and further in view of Yik et al. (U. S. Patent No. 6,697,873 B1).

As per claim 4, Thompson in view of Scott does not disclose a network device comprising a network switch. Milway explicitly discloses a network switch (fig. 1). Therefore it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to incorporate the teaching of Milway with Thompson in view of Scott, in order to include a network switch. One of ordinary skilled in the art would have been motivated because network switch are well known devices used for switching cells from a plurality of network input links to a plurality of network output links (Milway see abstract).

As per claim 5, Thompson in view of Scott and further in view of Milway discloses the network device comprising: a layer two switching module configured to build a routing table (Milway, col. 4 L4-41 and fig. 10) and to instruct the extraction module to remove the null bytes from the modified cell of the data packet as the modified cell of the data packet exits the network device (Thompson, col. 6 L35-46), however, Thompson in view of Scott and further in view of Milway does not disclose a medium access control protocol module having a MAC address for transmitting the modified cell of the data packet. Yik explicitly discloses an apparatus comprising a frame-forwarding device including MAC address tables (see abstract, fig. 2 and col. 2L20-31). Therefore, it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to incorporate the teaching of Yik as stated above with Thompson in view of Scott and further in view of Milway in order to include a MAC module for transmitting the modified cell of the data packet. One of ordinary skilled in the art would have been motivated because it would have increased the performance of the network by forwarding

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the frames to the correct output port associated with the particular MAC address (Yik, col. 2 L20-31).

As per claim 9 and 13, they do not teach or further define over the limitations in claims 4-5. Therefore, claims 9 and 13 are rejected for the same reasons as set forth in claims 4-5.

Additional References


The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. (see PTO-892 mailed on 6/22/2005).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KAMAL B. DIVECHA whose telephone number is 571-272-5863. The examiner can normally be reached on Flex schedule 8 hr days (10.00am-6.30pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zarni Maung can be reached on 571-272-3939. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


September 21, 2005.


ZARNI MAUNG
SUPERVISORY PATENT EXAMINER